

CLAIMS

1. A tool holder of a machine tool, comprising:

a holder body;

5 a tool receiving surface part for receiving a rear end face of a shaft-like tool so as to form a closed space in contact with the rear end face, said shaft-like tool being fixed on a front end of the holder body; and

mist cutting fluid passages for leading mist cutting fluid fed from a front end part of a spindle to the closed space;

10 wherein an exhaust passage is formed for opening the closed space 12 to the atmosphere except for a passage hole 11a of the shaft-like tool 11 in contact with the closed space.

2. A tool holder of a machine tool as claimed in claim 1, wherein said exhaust passage has a circular portion near a rotating center of the closed space concentrically
15 outside the mist cutting fluid passages open to the atmosphere.

3. A tool holder of a machine tool, comprising:

a holder body;

a tool receiving surface part for receiving a rear end face of a shaft-like tool so as to form a closed space in contact with the rear end face, said shaft-like tool being
20 fixed on a front end of the holder body; and

mist cutting fluid passages for leading mist cutting fluid fed from a front end part of a spindle to the closed space;

wherein said tool receiving surface part is excavated rearward to form an excavated part large in diameter, on the other hand, a front end part of said mist
25 cutting fluid passages is protruded so as to form a circular space between a peripheral

wall and the excavated part, and

wherein an exhaust passage is formed for opening a circular portion concentrically outside the mist cutting fluid passages near a rotating center of the rear end face of the excavated part to the atmosphere.

5 4. A tool holder of a machine tool as claimed in claim 1, claim 2 or claim 3, wherein said tool receiving surface part forms a front end face of a tool receiving member adjustable in longitudinal position in the holder body.

10 5. A tool holder of a machine tool as claimed in claim 3, wherein said tool receiving surface part and said excavated part are formed on a front end face of a tool receiving member adjustable in longitudinal position in the holder body, and a tool receiving member part in rear of the excavated part forms a double pipe structure part concentric with its rotating center, and

15 wherein an inside of an inner tube of the double pipe structure part forms a part of the mist cutting fluid passages, and a circular space between the inner tube and an outer tube of the double pipe structure opens into the excavated part to form the first exhaust passage portion.

20 6. A tool holder of a machine tool as claimed in claim 5, wherein said first exhaust passage portion opens to the atmosphere through a space formed to the front end part of the holder body after through an inner space of a holder body part surrounding a rear end part of the double pipe structure part and the second exhaust passage portion formed between the tool receiving member and the holder body.

25 7. A tool holder of a machine tool as claimed in any of claim 1 to claim 6, wherein an automatic switching valve is provided in the exhaust passage, and said automatic switching valve opens when air pressure in the closed space is over a fixed level.

8. A tool holder of a machine tool as claimed in claim 5 or claim 6, wherein a cylindrical valve for opening and shutting the exhaust passage and a spring for pressing said cylindrical valve forward are externally inserted to a peripheral wall part of the mist cutting fluid passages on the tool receiving member portion of the rear of
5 the double pipe structure part, and

wherein the cylindrical valve is pushed and displaced rearward against elasticity of said spring due to the air pressure in the closed space to open said exhaust passage when the air pressure is over the fixed level, and conversely, the cylindrical valve is pushed and displaced forward due to the elasticity of said spring to close said
10 exhaust passage when said air pressure is under the fixed level.